

Lipidomics and Lipid Mass Spectrometry

Program Chairs

Hee-Yong Kim, *NIAAA, NIH*

Robert C. Murphy, *University of Colorado HSC*

All sessions will be in the Long/Bird/Indian Ballroom

Speakers – please arrive ½ hour before your session begins to load your presentation.

Friday, January 23

6:00 – 7:00 pm **Registration**, *Outside of the Long/Bird/Indian Ballroom*

6:00 – 7:00 pm **Pre-Opening Reception**, *Banyan Breezeway*
Set up your posters

7:00 – 8:00 pm

Opening Lecture

Session Chair, Hee Yong Kim, *NIAAA, NIH*
Long/Bird/Indian Ballroom

7:00 – 8:00 pm **Christian Raetz**, *Duke University*
“Complex Bacterial Lipid Biosynthesis: Lipid as Revealed by Mass Spectrometry”

8:00 – 10:00 pm **Reception/Informal Poster Viewing**, *Banyan Breezeway*

Reception is sponsored by



Thank you!!!

Saturday, January 24

7:00 - 8:30 am **Setup posters, Banyan Breezeway**

7:00 – 8:30 am **Continental Breakfast, Banyan Breezeway**

8:30 – 10:15 am

Introductory Session – Lipid Mass Spectrometry

Session Chair, Robert C. Murphy, *University of Colorado, HSC*
Long/Bird/Indian Ballroom

8:30 – 8:45 am **Robert C. Murphy, University of Colorado, HSC**
Initial Remarks

8:45 – 9:15 am **Al Merrill, Georgia Tech**
“Sphingolipid Analysis”

9:15– 9:45 am **William J. Griffiths, Swansea, UK**
“Steroid Analysis”

9:45 – 10:15 am **Alex Brown, Vanderbilt University**
“Quantitation of Phospholipids and Analysis of PIPs”

10:15 – 10:45 am **Coffee Break, Banyan Breezeway**

10:45 am – 12:15 pm

Mass Spectrometry of Lipid Classes and Structure Elucidation

Session Chair, Robert C. Murphy, *University of Colorado, HSC*
Long/Bird/Indian Ballroom

10:45 – 11:15 am **Todd Mitchell, University of Wollongong, Australia**
“Are Lipidomics Analyses Greatly Underestimating Lipid Diversity?”

11:15 – 11:45 am **Joanne Y. Yew, Harvard Medical School**
“UV-LDI-o-TOF MS Profiling of Hydrocarbons and Triglycerides from Single, Intact Fruit Flies”

11:45 – 12:15 pm **Huan He, NHMFL**
“Cellular Glycolipids in Cultured Glioblastoma Multiforme Brain Tumor Cells”

12:15 – 1:30 pm **Group Lunch, Garden Courtyard**

4:00 – 5:30 pm **Informal Poster Viewing/Networking with Afternoon Tea**
Banyan Breezeway

Saturday is continued on the next page

Saturday, January 24

5:30 – 7:00 pm

Recent Advances in Lipid Mass Spectrometry

Session Chair, Al Merrill, *Georgia Tech*

Long/Bird/Indian Ballroom

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| 5:30 – 6:00 pm | Graham Cooks , <i>Purdue University</i>
“DESI as a Versatile Method for Lipid Characterization and Imaging” |
| 6:00 – 6:30 pm | Klaus Dreisewerd , <i>University of Münster, Germany</i>
“Coupling of HPTLC, Immunostaining and IR-MALDI MS for Identification of Glyco- and Phospholipids Directly from the TLC Plate” |
| 6:30 – 7:00 pm | Tom Brenna , <i>Cornell University</i>
“Urinary Steroidomics by Comprehensive Two Dimensional Gas Chromatography-TOF (2D GC×GC-TOF) and Isotope Ratio Mass Spectrometry (IRMS)” |
| 8:00 – 10:00 pm | Poster Session & Reception , <i>Banyan Breezeway</i> |

Reception is sponsored by



Thank you!!!

Sunday, January 25

7:00 – 8:30 am **Continental Breakfast**, *Banyan Breezeway*

8:30 – 10:30 am

MALDI Analysis and Imaging of Lipids in Biological Tissues

Session Chair, Hee-Yong Kim, *NIAAA/NIH*

Long/Bird/Indian Ballroom

- 8:30 – 9:00 am **Richard Caprioli**, *Vanderbilt University*
“Molecular Profiling and Imaging of Tissues by MALDI Mass Spectrometry: Assessing Spatial and Temporal Distributions of Lipids and Other Metabolites”
- 9:00 – 9:30 am **Nicolas Winograd**, *Penn State University*
“SIMS, Buckeyballs and Lipid Imaging”
- 9:30 – 10:00 am **Amina Woods**, *NIDA/NIH*
“Visualization, Separation and Imaging of the Lipidome by MALDI-Ion Mobility Mass Spectrometry”
- 10:00 – 10:30am **Rachelle Landgraf**, *University of Florida*
“Imaging of Lipids in Spinal Cord using Intermediate Pressure MALDI-LIT/Orbitrap MS”
- 10:30 – 11:00 am **Coffee Break**, *Banyan Breezeway*

11:00 – 1:00 pm

Manufacturer’s Presentation

Session Chair, Hee-Yong Kim, *NIAAA/NIH*

Long/Bird/Indian Ballroom

- 11:00 – 11:30 am **Eva Duchoslav**, *MDS Analytical Technologies*
“Lipid Profiler”
- 11:30 am– 12:00 pm **Walter Shaw**, *Avanti Polar Lipids*
“Complex Lipid Synthesis, Stability and Purity”
- 12:00 – 12:30 pm **Brenda Kesler**, *Thermo Fisher Scientific*
“Utilizing Multi-Stage Fragmentation on an LTQ-Orbitrap for the Analysis of Oxysterols”
- 12:30 – 1:00 pm **Emmanuelle Claude**, *Waters Corporation*
“Matrix-Assisted Laser Desorption/Ionization-Ion Mobility Separation-Mass Spectrometry Imaging of Phospholipids in Nude Mice Bearing Human Prostrate DU145 Xenografts”
- 1:00 – 7:00 pm **Afternoon Free**

Sunday is continued on the next page

Sunday, January 25

7:00 – 8:30 pm

Lipidomic Strategies in Biological Systems
Session Chair, Tom Brenna, *Cornell University*
Long/Bird/Indian Ballroom

7:00 – 7:30 pm

Xianlin Han, *Washington University*
“The Underlying Principles of Shotgun Lipidomics”

7:30 – 8:00 pm

Ruth Welti, *Kansas State University*
“Lipidomics in Plant Systems”

8:00 – 8:30 pm

TBD

8:30 – 10:00 pm

Reception/Informal Poster Viewing, *Banyan Breezeway*
Remove your posters after 10:00 pm or by 9:00 am on Monday

Monday, January 26

7:00 – 9:00 am **Continental Breakfast**, *Banyan Breezeway*
Remove all posters by 9:00 am

9:00 – 10:30 am

Challenges in Biochemistry and Biotechnology I

Session Chair, Robert C. Murphy, *University of Colorado, HSC*
Long/Bird/Indian Ballroom

- 9:00 – 9:30 am **Hee-Yong Kim**, *NIAAA/NIH*
“Analysis of Signaling Lipids in the Brain”
- 9:30 – 10:00 am **Cathy Costello**, *Boston University*
“Lipid Analysis in Biological Studies by LC/MS and LC/MS/MS
Methods”
- 10:00 – 10:30 am **Clementina Mesaros**, *University of Pennsylvania*
“Oxidized Lipids in Biology: Challenges in Analysis”
- 10:30 – 10:45 am **Coffee Break**, *Banyan Breezeway*

10:45 am – 12:00 pm

Challenges in Biochemistry and Biotechnology I

Session Chair, Hee-Yong Kim, *NIAAA/NIH*
Long/Bird/Indian Ballroom

- 10:45 – 11:15 am **Suresh Bhamidi**, *Colorado State University*
“Analysis and Characterization of Mycolic Acids in *Mycobacterium tuberculosis* Grown *in vivo*”
- 11:15 – 11:45 am **Robert C. Murphy**, *University of Colorado, HSC*
“Eicosanoid Analysis in Transgenic Mice”
- 11:45 – 12:00 pm **Hee-Yong Kim**, *NIAAA/NIH*
Closing Remarks